North Dakota
Information Technology Department

Presentation to the IT Directional Meeting

March 19, 2014

Pioneer Room

State Capitol

Mike Ressler
CIO

Agenda

- Desktop Study Update (Mike)
- General Updates (Dan)
- Security Updates (Dan)
- Software Development Update (Doran)
- Network Update (Duane)
- Data Center Update (Duane)
- Database and Encryption Update (Dean)
- SharePoint 2013 (Gary)
- EDMS Projects (Gary)
- ArcGIS Online Overview (Bob)
- Service Desk Interns (Gary)
- HEAT 2013 (Gary)
- ConnectND Roadmap (Gary)
- Vendor Pool Contract (Gary)
- IT Planning Schedule (Gary)

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State of North Dakota

Desktop Support Study – Summary

December, 2013

EideBailly®

CPAs & BUSINESS ADVISORS

Publication can be found at:

- ✓ ITD Website
- ✓ Publications
- ✓ Miscellaneous
- ✓ 2013 Desktop Support Study

http://www.nd.gov/itd/files/publications/2013-desktop-study.pdf

Project Scope

- As required in SB 2021, Section Nine, the project completed a:
  - “study of all state agencies' information technology desktop support to determine the feasibility and desirability of centralization of desktop support services through the information technology department for all state agencies.”
- To complete the project, over 50 agencies were interviewed to assess their current Desktop Support environments.
- State of North Dakota Desktop Support practices were compared to multiple industry benchmarks and best practices.

Support Model Options Considered

Option #1
Fully Centralized ITD Provided Support

A single ITD Desktop Support team for all agency users.

All desktop management tools and processes centralized with ITD for all agencies.

Option #2
Fully Distributed Agency Provided Support

Each agency provides their own Desktop Support (tools and staff).

Continue "status quo" for all desktop management tools. (e.g., ITD provides selected tools for agency use)

Option #3
Hybird

Customized Desktop Support staffing model - by agency requirements and size.

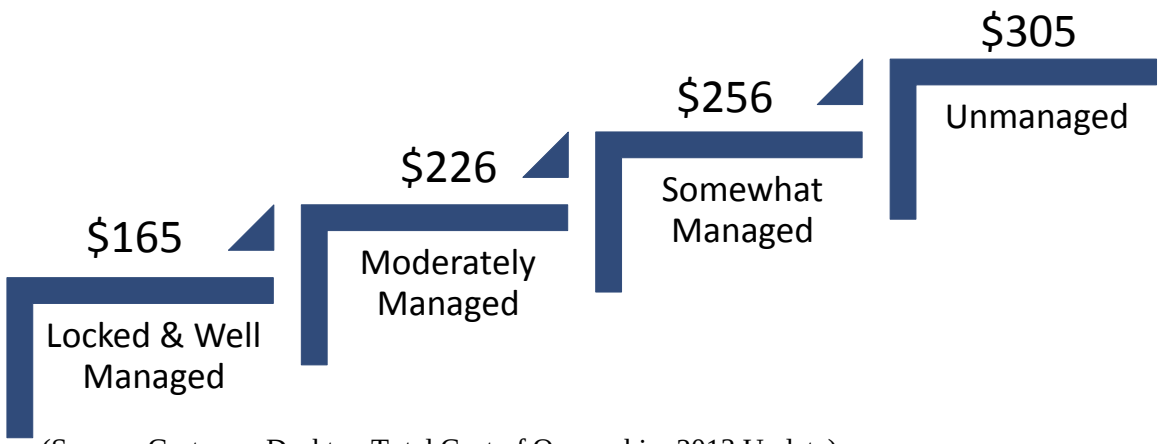
Stronger standardization of desktop management tools, while still allowing for agency flexibility for non-mission critical tools.

Key Statistics & Benchmarks

Number of End Users per Support Technician (Agency)		
Small Sized Organizations (Less than 2,000 Users)	Medium Sized Organization (2,000 - 10,000 Users)	North Dakota Agency
Median Ratio	Median Ratio	Average Ratio
150:1	375:1	128:1

(Source: HDI – Staffing Desktop Support – March 2013)

Tier 1 & Tier 2 User Support Costs – By Level of Manageability



(Source: Gartner – Desktop Total Cost of Ownership: 2013 Update)

Summary of Recommendations

Hybrid Support Model

- 32 Agencies / 1,787 Users – Migrate to Desktop Support provided by ITD
- 16 Agencies / 6,088 Users - Continue with the current agency-based Desktop Support model

Tools Standardization

- Expand efforts to consolidate Desktop Support related tools and services
- 6 Key Tools recommended as “mandatory” for use by all agencies

Improved Efficiency

- Shared staff for smaller agencies results in fewer overall staff that are currently required for Desktop Support
- Focus agency staff on their primary function

Benefits of Recommended Solution

- **Cost Avoidance**
  - Avoid future Desktop Support staff expansions for agencies with ITD-provided Desktop Support.
  - Free existing agency staff from Desktop Support duties to focus on their primary agency function(s).

- **Security**
  - Better monitoring and management of small agency desktop security.
  - Consistent security policy implementation across all agencies. (Through more consistent tools use.)

- **Efficiency & Effectiveness**
  - Desktop Support staff efficiency for smaller agency support.
  - Efficient and effective support for users whose technology is “common” across the environment.

Why not continue with the current distributed Desktop Support model for all?

- Highest cost model, particularly for smaller agencies.
- Distributed security roles and responsibilities adds unnecessary risk to the environment.

Why not fully centralize all Desktop Support for all agencies?

- Complex environment to support, with 1,000’s of applications.

- Many larger agencies are already achieving Desktop Support staff to user ratios that are in-line with industry benchmarks.

Status of Action Items

- ITD is defining the components of a service
- Calculating the cost
- Meeting with some of the department's to gather additional information
- Meeting with Governor and OMB to determine if service will be funded and included in Governor's budget

QUESTIONS ???

Dan Sipes
Deputy CIO

General Updates

- Director of Administrative Services – Greg Hoffman
- Digital Archive Study
  - Cooperative effort with State Historical Society
  - Tournesol Consulting
  - 38 meetings with 21 agencies
  - Report is due April 30
    - Identify Data Governance Strategies
    - Identify Funding Strategies
    - Identify recommendations for acceptable file formats and storage media for long-term storage and access.
  - Contact Becky Lingle with any questions

High Level Cloud Service Reminders

- IaaS – Infrastructure as a Service - (Amazon S3, Rackspace)
  PaaS – Platform as a Service - (Microsoft Azure)
  - ITD provides these services. When external cloud services are necessary ITD will procure and manage.
- SaaS – Software as a Service
  - These solutions require a waiver from OMB/ITD since they include embedded hosting services. (NDCC 54-59-22)
  - Sample of items considered
    - Authentication and Authorization requirements
    - Interfacing applications
    - Network impact
    - Security and DR Requirements

DR/Security Updates

- DR Testing reminder – 3 month minimum lead time
- Man Tech Audit – Agency Security Briefing will follow
- Multi-Factor Authentication
  - Required for remote access to sensitive data
- Data Center security posture – (Duane)
- Encryption of Mainframe TN3270 sessions
- Encryption of data at rest for critical data – (Dean)
- Application Scanning – (Doran)

ITD Security Framework 2.0

- Security Framework Roles and Responsibilities
  - ITD
  - Information Owner
  - Agency Director
  - Agency IT Coordinator
  - Agency Security Officer
  - Agency User

ITD Security Framework 2.0

- ITD's Role
  - Per NDCC 54-59-05.2 and 54-59-05.14 ITD has the authority and responsibility for information systems security surrounding State of North Dakota information technology assets.
  - ITD is responsible for protecting the availability, integrity, and confidentiality of the state's information systems and the data stored in information systems that are managed by ITD.
  - ITD also directs the development of standards, policies and guidelines for enterprise security. This is done in collaboration with state agencies through the Enterprise Architecture process.

ITD Security Framework 2.0

- Information Owner
  - ITD does not own most of the information residing in the data center. The information owner for most data is a state agency or political subdivision.
  - The information owner is responsible for authorizing access privileges and ensuring regular reviews and updates to manage changes in risk profiles.

ITD Security Framework 2.0

- Agency Director
  - Agency Directors are responsible for information security in each agency, for reducing risk exposure, and for ensuring the agency's activities do not introduce undue risk to the enterprise.
  - The director also is responsible for ensuring compliance with state enterprise security policies and with state and federal regulations.
  - Per NDCC 54-59-10 each agency must appoint an information technology coordinator to maintain a liaison with ITD. The agency director will often delegate their information security responsibilities to the agency information technology coordinator.

ITD Security Framework 2.0

- Agency IT Coordinator
  This role is assigned by the Agency Director and their security responsibilities include:
  - Submitting security requests
  - Reviewing access logs
  - Reviewing authorization reports
  - Serving as the main point of contact between ITD and the agency regarding security issues
- These duties are sometimes delegated to the Agency Security Officer.

ITD Security Framework 2.0

- Agency Security Officer
  - Agency Security Officers are responsible for communicating with ITD's Security Incident Response Team and coordinating agency actions in response to an information security incident.
  - In many agencies the Agency IT Coordinator fills this role.
- Agency User
  - Responsible for complying with the provisions of IT security policies and procedures.

Windows XP Update

- As of the last count there 1,319 computers in 33 agencies running the Windows XP operating system.
- As of April 8, 2014 Microsoft will no longer be supporting or issuing security patches for XP.
- Agencies running XP will be considered out of compliance with Enterprise Architecture standards DT003-06.2 (Desktop OS) and DT001-04.3 (OS Critical Updates).
- Agencies should be aware that if security attacks are detected at-risk PC's/subnets will be removed from the network.

Windows XP Update

- Agencies out of compliance will be communicating with the ITD Security Section regarding the status of Windows XP machines in their agency.
- Agencies will be expected to submit the following
  - Total number and names of PCs expected to be running XP after April 8th.
  - The Remediation Plan to come into compliance
    - Expected Start and Completion dates for the remediation plan
  - Primary obstacles to successful remediation

Doran Eberle
Director

Software Development Division

Software Development Lifecycle Update

- Good practice to review methodology, documentation and processes as industry changes
- Addition/integration of new roles and artifacts – Business Analysis and Quality Assurance
- Some new artifacts but most artifacts stay the same or have minor cosmetic changes
- Provide consistency with artifacts, processes across teams
- Focus on project role vs. job classification
- Wiki – process documentation and artifact template/example links

Software Development Lifecycle Update

- Example of new/revised artifacts:
  - Business Process Models
  - Requirements Traceability Matrix
  - Test Plan, Test Cases, Test Design Specification
  - User Interface Flow Diagram
  - Security Roles and Processes Plan
  - Security Role Implementation Design Specification
  - Project RACI matrix
    - **R**esponsible – responsible for completing task or deliverable
    - **A**ccountable – accountable for the task or deliverable to be completed
    - **C**onsulted – individuals who may provide input in completing task or deliverable
    - **I**nformed – individuals who may need to be informed after completion of task or deliverable

Software Development Lifecycle Update

- SDLC Governance established
  - Ensure a unified approach in the development and evolution of software development
  - Industry monitoring and alignment
  - Alignment with compliance, audits
  - Review closeout meeting reports and look at ways for improvement
  - Communicate and mentor customers and Software Development staff on SDLC changes

Application Security Activities

- AppScan vulnerability scanning progress since the last meeting
  - Vulnerability scans completed: 5 applications
  - Application remediation completed: 3 applications
  - Vulnerability scans in progress: 2 applications
  - Vulnerability scans in queue: 2 applications
- Vulnerabilities identified to date have been low to medium risk
- ITD continues to educate staff on design and development practices that address evolving security concerns
- Common design concerns include displaying identifying information on a single page (I.E. Name, DOB, SSN, ….)
- Solutions may include data masking, information spread across multiple pages, etc…

Software Development Update

- Content Management – Drupal
  - Currently managing a substantial workload
  - We have procured contract resources to address this workload
  - Able to provide estimates to give cost and schedule options
- 2015-2017 Budget Cost Estimates
  - Please submit service requests for next biennium cost estimates
  - We will continue to use a blended rate on the estimates to account for contract resources
  - We will provide the estimates using ranges (I.E. 9-12 months, $110k - $125k) to address scope and resource unknowns
  - Encourage completing a business analysis as a first step for larger initiatives

Duane Schell
Director

Network Services
Division

Network Update

- STAGEnet 2015
  - RFP responses received
  - Presently in evaluation phase
- Web Content Filtering
  - RFP responses received
  - Presenting in evaluation phase

Data Center Update

- Intrusion Detection and Prevention Improvement
- Positioned for greater internal isolation
- Layer 7 firewall augmentation
  - versus traditional layer 3
- Improved failover and resiliency
- Capacity Upgrade

Communications Technology Demo

- Looking at dates in April
- Live Demo of various communications products and features
  - Soft phones
  - Web Conferencing
  - Video Tools
  - Mobility Enhancements

Dean Glatt
Director

Computer Systems Division

SQL 2012 Database upgrade

- Groups 1-4 of agency databases and applications are 80% complete
  - Remaining Agencies with SQL 2005 database applications include:
    - DOH – 3 applications
    - DOT – 1 application
    - DES – 1 application
    - NDHP – 1 application
    - DOA – 1 Application

SQL 2012 Database upgrade

- Group 5 agencies (BND, Insurance, Tax, and Securities) are scheduled to complete upgrades by end of April.
- ITD has 37 internal databases to upgrade by July 1st
- ITD Software development is working with customers to upgrade 45 databases by mid year. Software Development will handle the upgrade on behalf of customers. Most are related to CJIS and ITSM.
- Any questions about the status of your agencies upgrades should be directed to Pat Groce (pgroce@nd.gov)

Encryption - why we use it?

- From systems perspective it provides confidentiality for data on the media.
- It alleviates concern for data loss due to theft and discarded media
- Examples
  - Web browser
  - Email
  - Hard drive

Encryption - where should we use it?

- Ultimately we will use it everywhere for data at rest and in transit
- Ultimate goal: Encryption everywhere, always
- The world has elements of encryption all over but it is not yet ultimately there.

Encryption - where are we using it at this point in time?

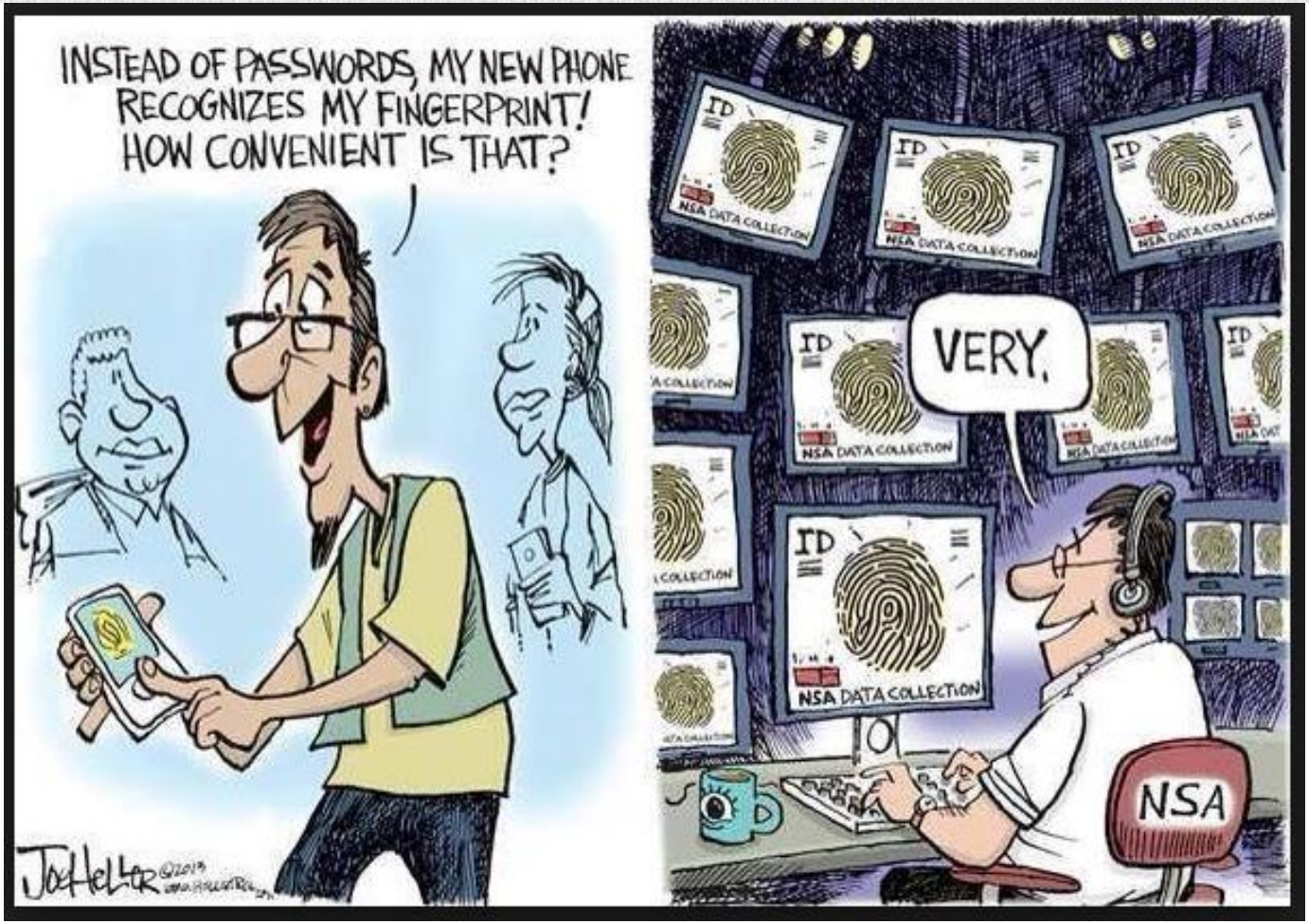
- Data Center Disk and Tape
  - Hardware (and software layers)
  - Benefits
    - No Performance Impact
    - Addresses security/compliance concerns
    - Concern for lost or stolen media addressed
- Database layer
  - Restrictions on some tables and columns
  - Performance Impact

Encryption - where are we using it at this point in time?

- Personal Space
  - Smartphones (Zenprise)
  - Full disk encryption on laptops (Wave Systems)
- Enterprise ability to recover state owned data

Encryption - how do we manage it?

- Key encryption systems need fail-proof designs for key management and checks and balances for guarantees.
- If you lose the keys you are locked out. Forever.
- Where are the keys to your data? Where are the keys to your employees data? Where are the keys to your 5 year archive?
  - Employees use accounts for Dropbox, Carbonite and TrueCrypt


INSTEAD OF PASSWORDS, MY NEW PHONE RECOGNIZES MY FINGERPRINT! HOW CONVENIENT IS THAT?
Joe Heller
VERY.
ID
NSA DATA COLLECTION
NSA

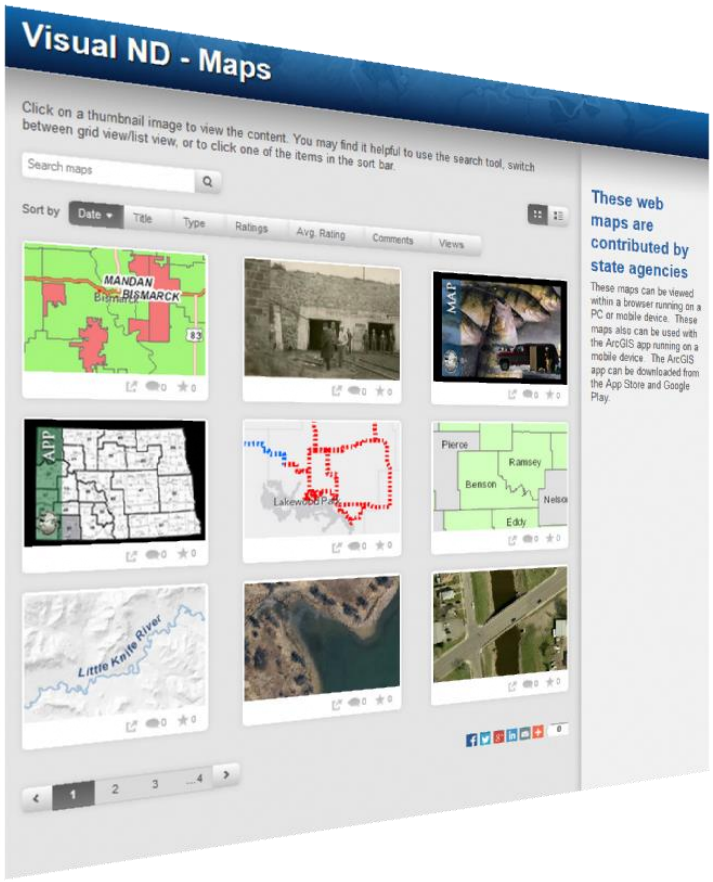
Gary Vetter
Director

Enterprise Services
Division

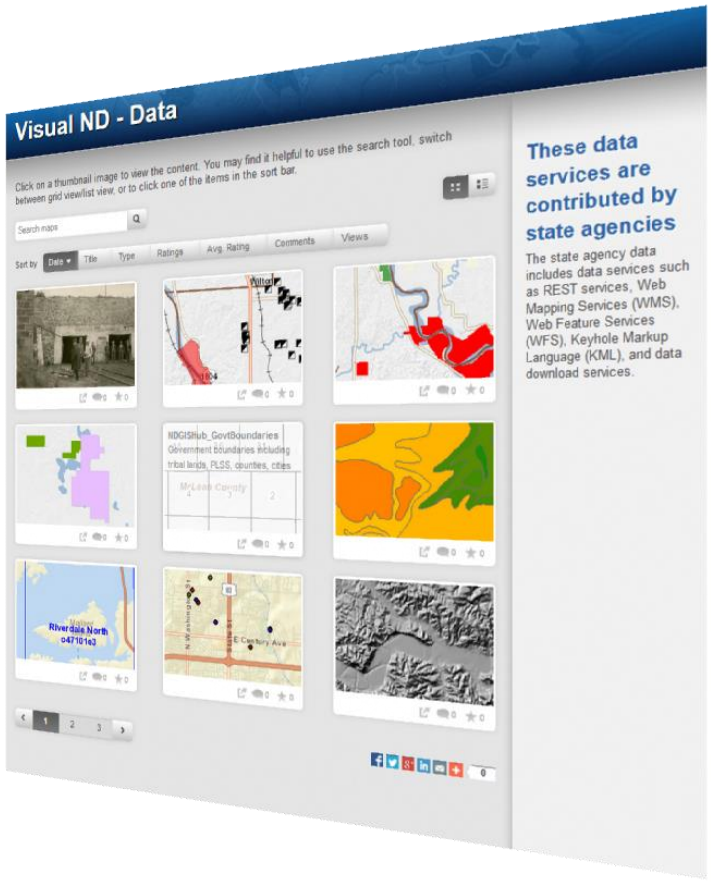
SharePoint

December 6, 2013	Foundation Test
January 5, 2014	Foundation Production
March 9, 2014	Enterprise Test
TBD, 2014	Enterprise Production

April 3, 2014	Adobe Day
April 8, 2014	EDMS Users Group 2:00 - 3:30 PM Sakakawea Room
April/May, 2014	Complete ILINX Upgrade
TBD, 2014	FileNet 5.2 Upgrade



ArcGIS Online Overview



ArcGIS Online: Benefits

- Cloud-based tool for hosting data, services, maps
- Mobile-friendly
- Provides application templates
- Embed maps into existing websites
- Agencies can share content internally and with constituents
- Uses data from the GIS Hub and other sources
- Doesn’t replace Desktop GIS tools already in place
- How do you get it?
  - Provided with Desktop GIS
  - Visual ND

ArcGIS Online: Visual ND

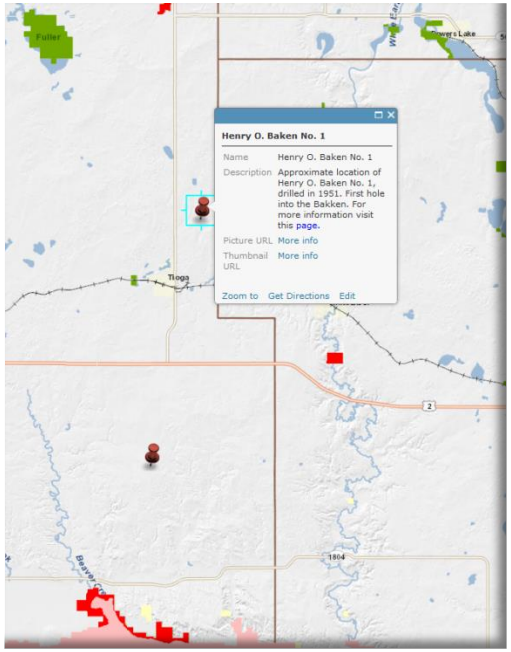
- ArcGIS Online – North Dakota branded
- Doesn't replace the GIS Hub
- A single ArcGIS Online license
  - Used by the GIS Hub
  - Accommodates many agencies – for their own use
  - Agencies choose which maps and content to share to Visual ND
- ITD and Commerce received general funds for 2013-2015
  - ITD – data, user/publisher training, mentorship
  - Commerce – customized interface, marketing, general use training

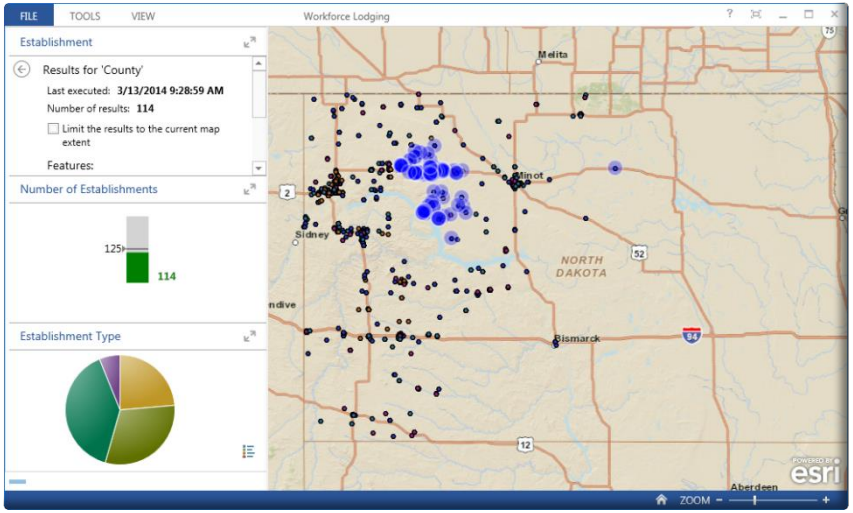
ArcGIS Online: Things to Know

- ArcGIS Online/Visual ND positions your agency well
  - Open data
  - Much bigger offering in the future from Esri
- Training (no cost to agencies)
  - User workshop held in February – possible more in future
  - Publisher workshop – April 8
- Mentorship (no cost to agencies)
  - Contracting through Vendor Pool
  - Assistance in using ArcGIS Online and sharing with Visual ND
  - Assistance in preparing data for use with ArcGIS Online
- Guidelines from GISTC
  - http://www.nd.gov/gis/help/visualnd.html

ArcGIS Online: Demo

- Visual ND (current state)
- Build a simple map
- Operations Dashboard





ArcGIS Online

Thank You!

Bob Nutsch
bnutsch@nd.gov
328-3212

north dakota
GEOGRAPHIC INFORMATION SYSTEMS

IT Service Management

- HEAT 2013 upgrade
- Service Desk Interns

Randy Jensen

Nick Willoughby

CONNECT ND

- Recruiting Solutions implemented on February 12, 2014
  - 241 open positions
  - 18 filled openings
  - 17 positions in draft status
  - 2898 unique applicants

Vendor Pool Contract

January 28, 2014	RFP Issued
March 12, 2014	Proposals Due
May, 2014	Evaluations Complete
July 1, 2014	Contract in Place

- Previously done in 2005, 2008, and 2011
- Administered by SPO, in partnership with ITD
- 2011-13 spend was $17,548,545
- 30 Categories
- 21 Evaluation Teams

Mid-April, 2014	IT Rates Announced
May-July, 2014	ITD Planning Meetings with State Agencies
August 15, 2014	IT Plans Due
September 2014	SITAC Ranking of Large Projects
January 5, 2015	Statewide IT Plan distributed to Legislature

THANK YOU!!!